CIRM Stem Cell Research Biotechnology Training Program at CSULB

Grant Award Details

CIRM Stem Cell Research Biotechnology Training Program at CSULB

Grant Type: Bridges

Grant Number: TB1-01182

Project Objective: To provide a stem cell training regimen to students pursuing Bachelors/Masters degrees or Biotechnology Certificates.

Investigator:

Name:	Lisa Klig
Institution:	Cal State Univ, Long Beach
Type:	PI

Award Value: $3,487,091

Status: Closed

Grant Application Details

Application Title: CIRM Stem Cell Research Biotechnology Training Program

Public Abstract: The proposed project has three major goals. The first is educating the public about the medical, biological, and technological advances of stem cell research and recruiting new scientists into the workforce. The second is training the students in the theory and techniques of stem cell research. The third is retaining these trainees in the California workforce by providing specialized training and laboratory internships, which will lead to long-term career opportunities in stem cell research in California. To educate non-scientists and to increase the number of informed California citizens in the theory and potential of stem cell research, a new general education course will be developed at a local community college as a bridge to our comprehensive university program. A new module also will be added to our existing large, lower division, general education lecture course "Introduction to Human Diseases." This course may be the only life sciences many students will learn in college and could initiate a life-long appreciation of the biological sciences, including stem cell technologies. Such an appreciation will have a significant impact on our society given the role of the voting population in the funding and promoting of advanced technologies. The California stem cell research workforce will be enhanced by recruiting up to ten students each year to enter a new, two-year, stem cell training option which will be added to an existing Biotechnology Certificate Program. The first year will be training at our institution, and the second will be internships at stem cell host institutions Of the approximately 2000 students in Chemistry and the Biological Sciences, those interested in the program will enroll in specific fall semester courses as part of their B.S. or M.S. degree plan, or in the Biotechnology Certificate Program. Exceptional students from this pool who demonstrate reliability and motivation will be invited to apply for the internship. Students who are accepted will attend a stem cell techniques course at [REDACTED] and will choose the host stem cell research laboratory for their ten-month internship at either the [REDACTED] or [REDACTED]. The students will be extensively mentored throughout the program. Trainee progress will be assessed via standardized reporting, which will be completed by the students and the head of the host laboratories. The program will include a program director and an Advisory Committee consisting of the Program Director, two representatives from our institution, and one representative from each of the collaborating institutions. [REDACTED] has a long history of successfully training large numbers of students for the California workforce and for graduate study. The CIRM Bridges to stem cell research training program will integrate well with the existing programs and augment the Biotechnology Certificate Program.

Statement of Benefit to California:	The goals of the proposed program include training students to enter the stem cell research workforce, recruiting students to work in stem cell laboratories, and educating non-scientists in the theory and potential of stem cell research. The proposed project has three major facets. The first is educating the public about the medical, biological, and technological advances of stem cell research and recruiting new scientists into the workforce. The second is training students in the theory and techniques of stem cell research. The third is retaining these trainees in the California workforce by providing specialized training and experience that will lead to career opportunities in stem cell research in California. To educate non-scientists and to increase the number of informed California citizens in the theory and potential of stem cell research, a new general education course will be developed at a local community college as a bridge to the our comprehensive university program. A new module will also be added to our existing large, lower division, general education lecture course “Introduction to Human Diseases”. This course is extremely important because this is, in many cases, the only life sciences many students will learn in college. This course could instill excitement and enthusiasm for life-long learning in students, many of whom dislike or are fearful of science. This is critical for personal well being, and may have a significant impact on our society given the role of the voting population in the funding and promotion of advanced technologies. We enroll just under 38,000 students who reflect the ethnically diverse population of the surrounding area. The stem cell training program can be integrated into many of our existing B.S. and M.S. degree programs, and ensures the currency of courses for many of our students. The Biotechnology Certificate Program was established at our institution in 1994 to train undergraduate, post baccalaureate, and Master’s degree students to enter the California workforce. The stem cell training program will become an option in this program. The current Biotechnology Program is open to all B.S. and M.S. degree students in the departments of Biological Sciences and Chemistry & Biochemistry (approximately 2000 students), and qualified post baccalaureate students. This new option will take two years to complete. The first year will be training at our institution, and the second will be internships at stem cell host institutions. We plan to train up to ten students each year in this internship program. [REDACTED] has a long history of successfully training large numbers of students for the California workforce and for graduate study. Both the students and the State of California will greatly benefit from this training program as it will facilitate the establishment and maintenance of active stem cell research laboratories and the translation of this technology into the regenerative medicine marketplace.